

- SA
- Sturt Highway (226km) relatively unsafe and rated medium or above for both individual and collective risk.
  - The Eyre Highway, from the WA border to Yalata, is rated as having low collective risk and low-medium individual risk.
- WA
- Great Northern/Victoria Highway (3188km) very low traffic volumes and relatively unsafe, with a medium-high to high individual risk.
- NT:
- Many sections of the Great Eastern/Coolgardie-Esperance/Eyre Highway are rated low in both collective and individual risk.
  - Stuart Highway (1749km) safety performance varies but relatively unsafe, with individual risk rating medium-high to high.

## Motorcycle Safety

By Ian Faulks, STAYSAFE Committee, NSW Parliament and Liz de Rome, LDR Consulting

Motorcycle deaths in New South Wales have risen sharply in 2005, with 31 motorcyclists dying in road crashes in the first four months of 2005. Up to mid-September 2005, another 15 motorcyclists have died. These deaths are those reported as occurring on 'roads or road-related areas'—a required element for a motor vehicle-related death in New South Wales to be recorded under the formal definition of road trauma. There are a number of additional deaths involving motorcyclists that occurred in areas not considered to be roads or road-related areas.

The rapid rise in motorcycle deaths is a matter of concern. Recent fatal motorcycle crashes involved:

- A majority of male riders
- Wide range of ages (15 year old pillion passenger to 84 year old rider)
- Crashes occurred across a wide range of areas of New South Wales (Sydney, Wollongong, North Coast, New England)
- Most crashes were on local and minor roads
- Crashes involved impacts with other motor vehicles and impacts with roadside objects

These observations indicate that there is not just one subgroup of riders at greater risk. It is a concern for all riders.

Despite active efforts by the NSW Motorcycle Council and the Motor Accidents Authority to develop a motorcycle safety strategy and to promote wearing of appropriate protective equipment, injuries and deaths of riders continue to increase.

The Federal Chamber of Automotive Industries has reported that retail figures for the first quarter of 2005 show that motorcycle sales in Australia continue to grow rapidly. The motorcycle market in Australia appears to be experiencing a long term revival, with the expected total 2005 market reaching 100,000 motorcycles—a total volume of sales not seen since the early 1970s. The growth in sales of new motorcycles is primarily driven by the road bike market, and includes segments such as super sports, scooters, and cruisers. Sales of off-road motorcycles also increased. A total of 21,336



road bikes, dirt bikes and all-terrain vehicles (ATVs) were sold to the end of March 2005 - an increase of 13.3% over the same period last year. The increase follows a record year in 2004, when total motorcycle sales grew by 21.3% to 89,374—the highest in more than two decades.

At a meeting of the National Road Safety Strategy Panel, formed to monitor the implementation of the National Road Safety Strategy 2001-2010, in February 2005 in Canberra, the issue of motorcycling safety in New South Wales was considered. It was reported that there had been a slight reduction in the number of motorcycle crashes between 1995 and 2003, despite a 34% increase in the number of registered motorcycles over the same period. Between 2000 and 2003 there was an 11% decrease in multi-vehicle motorcycle crashes. This decrease was made up of a 9% reduction in multi-vehicle motorcycle crashes in which the motorcycle rider played the major role, and a 12% reduction in such crashes where the other driver played the major role. It was noted that a motorcycle awareness campaign, funded by the Motor Accidents Authority, was introduced in 2002. It was also noted that the light truck category of vehicles (which includes 4WDs) are over-represented in motorcycle-into-car crashes.

The issue of a national motorcycle safety strategy was raised at this meeting of the National Road Safety Strategy Panel in

February 2005. The panel noted that this issue had been raised in the past and that the consensus at that time was that it was more effective to address motorcycle safety through the National Road Safety Strategy and Action Plans. The panel considered that this approach continued to be appropriate.

### Seminar on issues in motorcycle safety

On Friday 3 December 2004, the STAYSAFE Committee of the NSW Parliament and the Australasian College of Road Safety, with the assistance of the Motor Accidents Authority, held a seminar on issues in motorcycle safety. The papers presented at the seminar were not a comprehensive review of motorcycle safety in New South Wales, but did provide an opportunity to bring together Parliamentarians, motorcycle riders and their representative organisations, local government and New South Wales public sector officials, and road safety researchers and consultants to consider issues surrounding motorcycle safety.

### Seminar on motorcycle protective clothing and consumer protection in Australia

On Wednesday 4 May 2005, the Motorcycle Council of NSW and the Motor Accidents Authority held a seminar on motorcycle protective clothing and consumer protection in Australia. The seminar, named 'Gearing Up: A seminar on Motorcycle Protective Clothing' was designed for the motorcycle protective clothing industry and complemented an earlier project to produce a web-based consumer's guide to promote the use of protective clothing by motorcycle riders.

A recent STAYSAFE Committee report has brought together and published the proceedings of these two seminars. As well, the STAYSAFE Committee has included relevant papers on motorcycle safety strategies, including:

- the Roads and Traffic Authority's 2002-2004 action plan for motorcyclist and bicyclist safety;
- the Motorcycle Council of NSW's 2002-2005 'Positioned for Safety' motorcycle safety strategic plan; and
- the United Kingdom' 2005 motorcycling strategy

### Roads and Traffic Authority 2002-2004 action plan for motorcyclist and bicyclist safety

The Roads and Traffic Authority 2002-2004 action plan for motorcyclist and bicyclist safety was developed in late 2001, as part of the whole of government Road Safety 2010 strategy (see STAYSAFE 59, 2002).

The motorcyclist and bicyclist safety action plan set out objectives, strategies and actions for the 2002-2004 period. Both motorcyclists and bicyclists are considered vulnerable road users, and in 2001 these two categories of road user comprised one in eight road deaths in New South Wales.



With particular regard to motorcyclists, the 2002-2004 motorcyclist and bicyclist safety action plan noted:

- 94% of motorcycle fatalities were male.
- Younger adults aged under 30 years comprised the largest proportion of motorcycle fatalities (54%) but older riders (aged 30 years or more) were beginning to account for an increasing proportion (from 23% in 1986-1990 to 45% in 1996-2000).
- Speeding by the motorcycle rider was considered a contributing factor in more than half (56%) of all motorcycle fatalities.
- Around one-quarter (23%) of all motorcycle fatalities involved a motorcycle rider with an illegal blood alcohol concentration.
- One in nine (11%) motorcycle fatalities was not wearing a helmet.
- Nearly half (41%) of all motorcycle fatalities occur on the weekend whilst the great majority (79%) of bicycle fatalities occur on weekdays.
- Motorcyclist safety is a key issue for urban road safety, with 55% of motorcycle fatalities occurring in the Sydney, Newcastle and Wollongong greater conurbation.
- Almost half (45%) of all motorcycle fatalities involve the motorcycle leaving the carriageway or losing control on the carriageway with no other moving vehicle involved.
- Wearing of helmets is compulsory for motorcyclists (including pillion and sidecar passengers), and wearing rates for motorcyclists are around 98%.
- Competency-based compulsory motorcycle rider training for learner riders, related to steps in licence provision, is being expanded across New South Wales

The goal of the Roads and Traffic Authority 2002-2004 action plan for motorcyclist and bicyclist safety was:

"To reduce the incidence and severity of road crashes involving motorcyclists and bicyclists"

To achieve this goal, the stated objectives of the action

plan were to:

- Enhance awareness, knowledge and understanding of rider safety;
- Continue to improve attitudes, hazard perception and skills of riders;
- Promote the need for all motorists to travel at appropriate speeds in residential areas and in places where bicyclists are more common;
- Provide for bicyclists and motorcyclists in the design, construction and maintenance of roads;
- Ensure that the design and use of all vehicles leads to improved safety for motorcyclists and bicyclists; and
- Engage the whole community in relation to the safety of bicyclists and motorcyclists.

The 2002-2004 motorcyclist and bicyclist safety action plan identified future actions to improve the safety of motorcycle riders and passengers. Key actions included:

- Provide further public education to motorcyclists and other road users emphasising factors of key importance in motorcycle crashes.
- Design, construct and maintain roads to standards that recognise the needs of riders in line with the Austroads Guide to Traffic Engineering Practice (part 15) Motorcycle Safety.
- Continue to provide motorcycle rider training.
- Encourage the use of protective and more visible clothing for motorcycle riders.

An important element of the action plan provided for the development of a problem definition and countermeasure summary document specific to motorcycling. This was eventually published by the Roads and Traffic Authority (2004).

However, it is unclear as to how many other actions listed in the twenty five specific actions for motorcycle safety under the 2002-2004 motorcyclist and bicyclist safety action plan have been achieved. No evaluation of the outcomes of the action plan has been reported, and the action plan has been removed from the Roads and Traffic Authority's website.

What is clear is that the situation regarding road trauma involving motorcyclists and bicyclists has worsened. In the year to date, January-mid September 2005, these two categories of road user comprised one in seven road deaths in New South Wales (cf one in eight road deaths in 2001).

It is also unclear why motorcyclists and bicyclists were included in a common action plan—perhaps it was because both motorcycles and bicycles are two-wheeled vehicles, or because there are mandatory helmet wearing laws for both categories of road user. But the divergences are much greater, including for example:

- Motorcyclists must be licensed, with rigorous compulsory

off-road and on-road training, whereas there is no licensing regime for bicyclists

- Protective clothing used by motorcyclists is radically different in design, construction and functionality from clothing used by bicyclists
- The speeds achieved by motorcyclists in routine riding are much higher than bicyclists
- The distances ridden by motorcyclists are often much longer than ridden by bicyclists
- Bicyclists are better served by separated roadways (bicycle paths), although as Umar (2002) noted, specific provision of motorcycle-only lanes can be a viable countermeasure to motorcycle-related road trauma.

### **Motorcycle Council of NSW 2002-2005 'Positioned for Safety' motorcycle safety strategic plan**

The Motorcycle Council of NSW is the peak body for motorcyclists in New South Wales. The Council does not have individual members, rather motorcycling clubs send delegates to the Council. The Motorcycle Council of NSW, with funding from the Motor Accidents Authority, developed and released a motorcycle safety strategic plan, 'Positioned for Safety' (Motorcycle Council of NSW, 2002). This appears to be the first major strategic planning approach specific to motorcycle safety developed in Australia. The 'Positioned for Safety' motorcycle safety strategic plan was designed to integrate with, and extend, the Road Safety 2010 strategic planning document.

The 'Positioned for Safety' motorcycle safety strategic plan incorporated almost one hundred individual strategies addressing issues to achieve safer roads for motorcyclists, safer riders (and other road users interacting with motorcyclists), safer motorcycles and equipment, and a range of issues associated with general research into motorcycling, crash investigation and reporting, the promotion of consultation and communication, and issues associated with licensing, registration and insurance.

The Motorcycle Council of NSW has released an evaluation of the 2002-2005 'Positioned for Safety' motorcycle safety strategic plan, conducted by David Riches & Associates (2005). Findings from the evaluation indicated:

- High levels of stakeholder awareness, although “hard copies” may be missing
- Direct influence on engineering and transport management strategies, as engineers now look to Austroads Guide to Traffic Engineering Practice Part 15- Motorcycle Safety for guidance
- A strong influence on education and awareness programs, conducted mainly in local government settings
- Provided a useful “point of reference” for road safety

practitioners who are planning motorcycle action and activity in their area

- Encouraged campaigns directed to encourage protective clothing wearing rates
- Increased stakeholder awareness of the needs of motorcyclists, through publishing clear statistical analyses of motorcycle crash involvements
- Contributed to improving the public and professional image of motorcyclists
- Contributed significantly to improved flow of communication between road safety stakeholders and organisations, with some gaps noted in interaction with the Roads and Traffic Authority
- Provided a strong foundation to enter a new three-year planning cycle.

Overall, the results of the evaluation were very positive, with 98% of local councils who responded stated that they were aware of the Motorcycle Council of NSW's Positioned for Safety motorcycle safety strategy. There were substantial levels of action and strategic commitment in local government settings across New South Wales. Sixty percent of local councils who responded indicated that motorcycle road safety initiatives were included in their road safety strategies or action plans, and 73% of respondent local councils were able to cite specific examples of motorcycle project activity.

The evaluation also showed that the Motorcycle Council of NSW's Positioned for Safety motorcycle safety strategy has achieved a considerable number of outcomes extraneous to the original intent of the strategies. These outcomes have contributed to the organisational growth and professionalism of the Motorcycle Council of NSW to provide a better understanding of motorcycle issues, the political environment and the tactics that are required to achieve road safety benefits and outcomes. These outcomes are:

- Improved communications with the Roads and Traffic Authority, resulting in a more effective two way flow of information and consultation on motorcycle issues.
- Improved availability of reliable motorcycle crash data providing the basis for informed decision making and planning
- Reconciliation and recognition of shared objectives for motorcycle safety
- Establishment of direction and a framework for activity by the Motorcycle Council of NSW, providing clear priorities and objectives within a defined planning time period
- Direction and framework for partner organisations

Raised awareness of motorcycle issues by agencies, including the National Roads and Motorists' Association (NRMA), the Institute for Public Works Engineering Australia (IPWEA), the Australasian College of Road Safety, etc..

Additionally the evaluation found evidence that:

- Effective media approaches have lifted the profile of motorcycle safety issues, and shifted the reporting theme from a negative portrayal of motorcycle riders to provide a positive image of motorcyclists as responsible road users with safety concerns; and
- A level of national prominence has been achieved by the Motorcycle Council of NSW as a leader in advocating and developing strategy for motorcycle safety in Australia.

It remains unclear as to why the Roads and Traffic Authority's motorcycle safety strategy contains only 25 actions, while the Motorcycle Council of NSW motorcycle strategy contains 91 actions. Such a gross disparity requires, in STAYSAFE's view, investigation and clarification.

The Motorcycle Council of NSW, working through the Australian Motorcycle Federation, also sought to develop a national strategic approach to motorcycle safety (Australian Motorcycle Federation, 2001). As noted earlier, this proposal was not accepted by the national Road Safety Strategy Panel. It remained for the first national motorcycling safety strategy to be published elsewhere (United Kingdom Department for Transport, 2005).

## United Kingdom 2005 motorcycling strategy

In February 2005, the United Kingdom Department for Transport released a comprehensive motorcycling strategy. This is a quite broadly based transport strategy which covers environmental, infrastructure and traffic management, motorcycle and rider equipment and behavioural factors.

The United Kingdom Department for Transport's motorcycling strategy includes the following statement from the Parliamentary Under Secretary of State for Transport:

The [United Kingdom] Government is committed to supporting motorcycling as an important part of the transport mix, working together with the motorcycling community to address the needs of motorcyclists.

For many years the popularity of motorcycling has fluctuated, influenced by changes in the cost of motoring by car, the range and ease of use of the motorcycles and scooters, and changes in lifestyles – such as where we choose to live and work.

Recently we have seen a significant increase in motorcycling, with people turning to motorcycles to beat congestion, and, as we have become more wealthy as a nation, an increase in biking as a leisure activity with people riding for the sheer fun of it.

In the light of this increase having a national strategy for motorcycling is a clear priority...

The principal aim of our strategy is to 'mainstream' motorcycling, so that all the organisations involved in the development and implementation of transport policy recognise motorcycling as a legitimate and increasingly popular mode

of transport. We want to see an end to old stigmas and stereotyping—motorcycling can be a modern, practical way of getting around, and we all need to recognise it as such.

The mainstreaming of motorcycling brings with it rights and responsibilities. Motorcyclists have the right to expect both central and local Government to take account of motorcycling in the planning process, when designing and maintaining the road network, when managing traffic and when considering safety. In return, motorcyclists must recognise their responsibilities—to ride sensibly and safely within the law, be considerate to other road users, and to others more generally – for example those who wish to enjoy the peace and tranquility of our rural areas.

This strategy is a beginning. It encompasses important initiatives including better training to take skills to a higher level; improving rider and driver attitudes and behaviour; improved motorbike design; better designed infrastructure and smarter traffic management. It sets out a clear program of action for us, working with others, and for the motorcycling world itself – the industry and the user groups – building on the excellent co-operative platform developed through the Advisory Group. Together we can take forward this sensible, practical and deliverable package of measures to make a positive difference for motorcycling, and make sure that motorcycling takes its proper place in the transport mainstream as a safe, affordable means of transport.

The approach adopted in the United Kingdom Department for Transport motorcycle strategy, which states that mainstreaming motorcycling as a form of transport is now government policy, is a quite different approach to that of most Australian governments, who consider motorcycles too dangerous to be encouraged and focus policy on harm minimisation and control.

### Other relevant motorcycle safety research papers

It is important to recognise that a significant proportion of work relating to motorcycle safety often remains unreported and unpublished. For example, in 2002 three Northern Sydney local councils—Willoughby, Ku-Ring-Gai, and North Sydney developed a motorcycle safety program to address the over-representation of motorcyclists in crashes in these three local government areas. The program included:

- education of motorcyclists regarding potential risks and how to avoid them;
- a helmet trade in offer which encouraged the use of protective clothing and safe helmets;
- road safety audits of identified ‘trouble spots’ for motorcyclists (which revealed that the issue at some of the sites was behavioural rather than environmental, and to address this, warnings for both motorists and motorcyclists were displayed at these sites on Variable Message Signs).

- a radio campaign, motorcycle safety brochures and bumper stickers, to raise the awareness of all road users regarding motorcycle safety issues.

While the motorcycle safety program was innovative, and engendered strong community and stakeholder support, and used a wide range of complementary strategies, and targeted different road user groups who have an impact on the safety of motorcyclists, and generated substantial interest from other road safety stakeholders, no substantive report of the program was published.

The Motor Accidents Authority has been particularly active in funding research and intervention programs for motorcycle safety. The Motor Accidents Authority has developed an injury prevention strategy to:

- meet the Motor Accidents Authority's road safety legislative responsibilities in a strategic and coordinated way
- give direction and priority to the Motor Accidents Authority's road safety activities; and
- disseminate information about those activities.

The strategy focuses on decreasing serious injury and gives priority to areas including those that have greatest cost impact on the New South Wales compulsory third party (CTP) insurance scheme. A key target group for the Motor Accidents Authority is motorcyclists.

Recent research studies funded by the Motor Accidents Authority include an exposure study by motorcycle make and type (Christie & Harrison, 2003), and an investigation of motorcycle crash patterns for young riders (Christie & Harrison, 2001). The results of this work have also been published more widely (Harrison & Christie, 2005).

The George Institute for International Health has commenced a series of research reviews examining the use of helmets by motorcyclists (see, e.g., Ivers, Wells, Blows, Liu, Stevenson, Sing & Norton, 2003; Ivers, Blows, Liu, Lo, Norton, Stevenson & Zhang, 2004; Liu, Ivers, Norton, Blows & Lo, 2003)

Safety issues associated with motorcycle helmets were also examined by O'Connor (2005), who sought to assess the role of helmets and helmet type in relation to injury to the cervical spinal cord (see also O'Connor, Kloeden & McLean, 2002).

A number of relevant papers on motorcycle safety have been presented at recent Road Safety Research, Policing and Education Conferences in Australia and New Zealand, including Haworth (2003), Haworth and Mulvihill (2003; 2004), Christie & Newland (2001), and (McCormack, 2003)

Finally, it is important to note that motorcycle safety issues arise in off-road contexts, including riding in parks and reserves, and on private property (including farms, see, e.g., Franklin & Davies, 2003)

## Concluding comments

STAYSAFE hopes that the release of such a compendium of research and analysis will foster and facilitate the development of a coherent motorcycle safety strategy in New South Wales that is adopted and supported by government as well as the motorcycling community.

STAYSAFE believes that it is appropriate to proceed to a formal inquiry into motorcycling safety in New South Wales. STAYSAFE has examined motorcycling safety issues by way of formal inquiry once before, but this work is now two decades old (STAYSAFE 3, 1984). Under the Chairmanship of Michael Knight MP, a comprehensive review of motorcycling safety was conducted, examining areas such as pre-learner's permit training and testing, the conditions of the learner's permit, provisional licensing and testing, requirements for motorcyclists to wear helmets and protective clothing, conspicuity issues (including daytime running lights), and a limited consideration of engineering issues affecting motorcycles. The most notable recommendations from this inquiry supported the establishment of a Rider Training Unit and a Motorcycle Rider Training and Testing Scheme in New South Wales. It was several years before recommendations made in this report were implemented. For example, a recommendation for a side-car passenger to be required to wear a helmet, and a recommendation for the removal of any exemption from helmet wearing, were not effected until 1992.

As well as the STAYSAFE Committee, Parliamentary counterparts in other Australian jurisdictions have conducted a number of inquiries into motorcycle safety (see, e.g., Road Safety Committee, 1993, 1998; Social Development Committee, 1992).

## References

- Australian Motorcycle Federation (2001). Australian agenda for motorcycling safety. Unpublished draft report. Melbourne, Vic.: Australian Motorcycle Federation.
- Christie, R. (2002). Investigation of motorcycle crash patterns for riders aged 17-25 in NSW and development of countermeasure strategies—Supplementary analysis in respect of motorcycle type, make & model. Sydney, NSW: Motor Accidents Authority.
- Christie, R. & Harrison, W. (2001). Investigation of motorcycle crash patterns for riders aged 17-25 in NSW and development of countermeasure strategies. Sydney, NSW: Motor Accidents Authority.
- Christie, R. & Harrison, W. (2003). An exposure study by motorcycle make and type. Sydney, NSW: Motor Accidents Authority.
- Christie, R. & Newland, R. (2001). Motorcyclist fatality and motorcycle sales patterns in Australia. Paper presented at the Road Safety Research, Policing and Education Conference, Melbourne, 18-20 November 2001. see website: <http://www.rsconference.com/roadsafety/detail/147> accessed September 2005.
- David Riches & Associates (2005). Evaluation of 'Positioned for safety: Road safety strategic plan 2002-2005'. Colyton, NSW: Motorcycle Council of NSW.
- Franklin, R.C. & Davies, J.N. (2003). Farm-related injury presenting to an Australian base hospital. *Australian Journal of Rural Health*, 11, 292-302.
- Harrison, W.A. & Christie, R. (2005). Exposure survey of motorcyclists in New South Wales. *Accident Analysis and Prevention*, 37, 441-451.
- Haworth, N. (2003). How valid are motorcycle safety data? Paper presented at the Road Safety Research, Policing and Education Conference, Sydney, 24 -26 September 2003. see website: <http://www.rsconference.com/roadsafety/detail/334> accessed September 2005.
- Haworth, N. & Mulvihill, C. (2003). Retiring from riding—or not? Paper presented at the Road Safety Research, Policing and Education Conference, Sydney, 24 -26 September 2003. see website: <http://www.rsconference.com/roadsafety/detail/334> accessed September 2005.
- Haworth, N. & Mulvihill, C. (2004). Hazard perception and responding in car drivers and motorcyclists. Paper presented at the Road Safety Research, Policing and Education Conference, Perth, 14-16 November 2004. see website: <http://www.rsconference.com/roadsafety/detail/348> accessed September 2005.
- Ivers, R., Wells, S., Blows, S., Liu, B.C., Stevenson, M.S., Sing, K.L. & Norton, R. (2003). Increasing motorcycle and rider conspicuity for preventing death and injury in motorcyclists. *The Cochrane Database of Systematic Reviews*, 2003, Issue 3.
- Ivers, R.Q., Blows, S., Liu, B.C., Lo, S.K., Norton, R., Stevenson, M.S. & Zhang, J. (2004). Motorcycle helmet legislation for preventing injuries in motorcyclists. *The Cochrane Database of Systematic Reviews*, 2004, Issue 3.
- Liu, B., Ivers, R., Norton, R., Blows, S. & Lo, S.K. (2003). Helmets for preventing injury in motorcycle riders. *The Cochrane Database of Systematic Reviews*, 2003, Issue 4.
- McCormack, L. (2003). A model for motorcycle community intersection projects. Paper presented at the Road Safety Research, Policing and Education Conference, Sydney, 24 -26 September 2003. see website: <http://www.rsconference.com/roadsafety/detail/406> accessed September 2005.
- Motorcycle Council of NSW (2002). Positioned for safety: Road safety strategic plan 2002-2005. Colyton, NSW: Motorcycle Council of NSW.
- O'Connor, P.J. (2005). Motorcycle helmets and spinal cord injury: Helmet usage and type. *Traffic Injury Prevention*, 6, 60-66

O'Connor, P.J., Kloeden, C. & McLean, A.J. (2002). Do full-face helmets offer greater protection against cervical spinal cord injury than open-face helmets? *Traffic Injury Prevention*, 3, 247-250.

Roads and Traffic Authority (2004). *Motorcycle safety: Issues and countermeasures*. Haymarket, NSW: Roads and Traffic Authority.

Road Safety Committee (1993). *Inquiry into motorcycle safety in Victoria*. Melbourne, Vic.: Parliament of Victoria.

Road Safety Committee (1998). *Inquiry into the review of motorcycle safety in Victoria*. Melbourne, Vic.: Parliament of Victoria.

Social Development Committee (1992). *Inquiry into motorcycle safety in Victoria—First Report: Motorcycle Visibility*. Melbourne, Vic.: Parliament of Victoria.

STAYSAFE 3 (1984). *Motorcycling safety*. Third report of the Joint Standing Committee on Road Safety of the 47th Parliament. Sydney, NSW: Parliament of New South Wales.

STAYSAFE 59 (2002). *On strategic planning for road safety improvements in New South Wales*. Fifteenth report of the

Joint Standing Committee on Road Safety of the 52nd Parliament. Sydney, NSW: Parliament of New South Wales.

STAYSAFE 65 (2005). *Motorcycle safety — Proceedings of seminars on issues in motorcycle safety held at Sydney, Friday 3 December 2004 and Tuesday 4 May 2005, and other selected papers*. Ian J. Faulks & L. de Rome (Editors). Report 8/53. Sydney, NSW: Parliament of New South Wales.

Umar, R. (2002). *Motorcycle safety initiatives in Malaysia*. Paper presented at the National Roads and Motorists' Association conference 'Zen and the Art of Motorcycle Safety: Issues and Developments in Motorcycle Safety', Sydney, Friday 25 October 2002. See website: [www.mynrma.com.au/safety\\_motorcycle\\_safety.asp](http://www.mynrma.com.au/safety_motorcycle_safety.asp) accessed September 2005.

United Kingdom Department for Transport (2005). *The government's motorcycling strategy*. London: United Kingdom Department for Transport. See website: [www.dft.gov.uk/stellent/groups/dft\\_roads/documents/page/dft\\_roads\\_035439.pdf](http://www.dft.gov.uk/stellent/groups/dft_roads/documents/page/dft_roads_035439.pdf) accessed September 2005.

Wells, S., Mullin, B., Norton, R., Langley, J., Connor, J., Lay-Yee, R & Jackson, R. (2004). *Motorcycle rider conspicuity and crash related injury: Case-control study*. *British Medical Journal*, 328, 857-860.

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## Managing Fatigued Driving:

### Public Information and Education

By Ken Smith, Smithworks Consulting

#### Abstract

The paper discusses fatigue and its impact on driving performance and crashes. Definitions of fatigue are described, and the difficulty of identifying fatigue related crashes and thus their true extent. It is argued that there is need for much greater public knowledge of contributing factors to fatigue and the extent to which people are at risk. Fatigue is a much greater road safety problem than is commonly understood and efforts to manage it are only just beginning.

#### Introduction

Over the last decade or so there has been a good deal of research and discussion about driver fatigue or, perhaps more correctly, the effect of fatigue on driving and its implications for safety. In Australia most of this work has been in relation to heavy vehicle safety, with research and policy development being centred around heavy vehicle driver hours of work and related issues such as sleep disorders. More recently attention

has been drawn to the dangers of sleepiness while driving, which has resulted in advertisements warning of the danger of 'microsleeps'. Recently, some survey work amongst the general population has been carried out.

Motoring organisations and authorities provide messages about the dangers of fatigue, the need to take rest breaks, plan trips and the like but there appears to be relatively little information in the public domain about the contributing factors and impairment effects of fatigue. The research work carried out in relation to heavy vehicle safety, although relevant, is not generally made available to the wider community.

This paper seeks to review this and other work in relation to fatigue and sleepiness, and to provide a basis for further consideration of ways to better inform the community to reduce what is becoming more clearly understood as a serious road safety problem. The paper will discuss definitions of fatigue, identifying fatigue as a contributing factor in crashes and other research work bearing on the issue.

#### Defining fatigue

Fatigue needs to be defined so that its character and effects can be distinguished from other forms of impairment, such as impairment from the use of prescription and non prescription drugs, cannabinoids and other 'recreational' substances and alcohol.